THE

BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXXIX.] THURSDAY, OCTOBER 30, 1873. [No. 18.

Original Communications.

MOUNT DESERT AND TYPHOID FEVER, DURING THE SUMMER OF 1873.

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THE village of Bar Harbor, situated on one of the many slopes of Mt. Desert Island which stretch from the mountain to the sea, is built along the elevated shore, varying in height above the sea level from ten to fifty feet. The settlement, for very many years consisting of no more than half a dozen houses, has assumed a more notable growth during the last decade, owing to the many visitors attracted thither by the wonderful combination of mountain, sea and island scenery, and it now numbers a dozen hotels and a large collection of smaller houses, the whole accommodating, during the height of the season, from two to three thousand souls. The proprietorship of both hotels and cottages is almost exclusively confined to the native population, whose limited means and contracted ideas have precluded any further realization of the requirements of a civilized township than those primary ones of food and shelter. As a consequence, the primitive means of disposal of the excreta and kitchen washings of a half-dozen cottages are still applied to the crowded summer village.

During the season just passed, the influx of visitors was greater than ever before. The weather was warmer than for many years, and the rainfall was unusually small. Fogs were infrequent.

The evidences of lax sanitary measures were seen on every hand. The necessary outbuildings were, as a rule, not properly cared for; the kitchen drainage either lay upon the surface of the ground near to the houses, or, on the other hand, was led but a few feet to an imperfectly constructed receptacle.

Pig-sties, in several instances, were in evident proximity to eye and nose, and piles of animal and vegetable refuse existed in closely neighboring fields.

These facts, thus far, are not brought forward as a special reproach to Bar Harbor, for, no doubt, many New England towns are in the same condition. There were, however, nuisances of which brief mention should be made in view of their apparent association with subsequent sickness. Of these the most noticeable was an

overflowing cesspool maintained within ten feet of the broad veranda of the Bay View, the largest hotel; and to its proprietor many and frequent remonstrances and protests were directed by his guests and others interested. But such complaints were received with stolidity and indifference, and no practical change was made.

In the same field with the cesspool, and within a hundred feet of either house, the proprietor of the Harbor House, the neighboring hotel, kept a pile of putrefying material collected from his kitchen, from which emanated the most sickening odors.

We leave others to judge of the conduct of this gentleman who persistently refused, in the face of the appeals of many excellent men and women, and also of the selectmen, to remove or discontinue the use of this second nuisance, and who further declared that such smells were healthy, and, to prove that they were, he should and did spread the material to rot upon the field.

Curiously enough, in the spring and early summer, a false report had become very generally circulated in the newspapers that typhoid fever existed at Mt. Desert, and this report, then contradicted, later became a verity.

The first marked typhoidal symptoms appeared among the guests of the Bay View House, on Aug. 5th, when a young lady of their number (case 1), after several days of general malaise and lassitude, took to her bed with severe headache, chills and high fever. On the 6th, another (case 2) was ill in the same manner. On the 10th, a young gentleman (case 3), who had been confined to the house for two weeks, with acute synovitis, became ill with the same symptoms as the two preceding.

Fever was the most obvious symptom, the temperature rising gradually, with morning remissions.

On Aug. 13th, a young lady (case 4), in whom the prodromal symptoms of loss of appetite, general illness and mental disquiet had been evident to many for a period of ten days, was seized with slight chills, and a most violent headache continuing for days and followed by the complete history of abdominal typhoid. About the same time, a fifth case (case 5) occurred, but coming under homœopathic treatment, we are unable to give its history beyond the facts that it was undoubtedly typhoid, and that it suffered a relapse, from which recovery was for a long time (up to Sept. 20th) doubtful.

Added to these cases, were two among the servants of the house, both sent home, one of whom (case 6), previously in ill-health, died within a week; the other (case 7), we have since learned from Dr. Grindle, of Somerville, made a slow recovery. In a closely adjoining cottage, another servant (case 8) also had the fever, and this was the only case which occurred outside the hotel.

So much sickness in a short space of time and in one hotel had already attracted attention, especially as the conditions of drainage remained unchanged. A consultation with Dr. Calvin Ellis, of Bos-

ton, then temporarily at Bar Harbor, was held, with a view of informing the guests of the probable association of the then prevalent illness with the particular vicinity, but the plan of informing them was, in a degree, forestalled by the question of a solicitous mother, as to whether her other children were as likely to be taken sick as the two then ill, to which there could be but an affirmative answer. The news spread instantly. A panic ensued, and though it was then evening, more than two-thirds of the guests left the house.

Letters from guests who had gone home within the previous two weeks arrived from time to time, containing information of five other cases pronounced typhoid by their respective physicians and of a moderately severe type. These we will refer to as cases 9, 10, 11, 12 and 13. Several other instances of general ill feeling, lassitude and headache, lasting a few days, were undoubtedly owing to the same causes as the preceding.

To summarize briefly. There were, in all, thirteen cases of typhoid fever associated with a residence at the Bay View House. Of these, seven were sick in the house, and five, shortly after or upon reaching home, and one in a cottage within twenty feet of the hotel, at which, it should be mentioned, she took her meals.

Five of these cases might be called normal typhoid, and the remainder abortive, the latter running their course in about two weeks, and not presenting the marked features of the five former.

The diagnosis of typhoid was based upon the characteristic prodromal symptoms, the general increase of temperature, and the existence, in a few cases, of diarrhœa, and in others of evident abdominal tenderness. Rose spots were observed in one case, but in others were not looked for, or, when looked for, not found. All the hotel cases made good recoveries.

The treatment need be only briefly referred to as consisting of an abundance of nourishment, stimulants, cold affusion and aconite, corresponding to high elevations of temperature.

The interesting inquiry into the causes of the outbreak now presents itself.

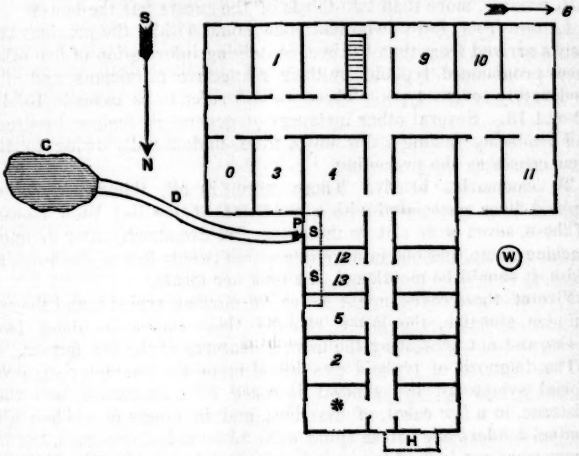
Of general telluric influences associated with low subsoil water and the decomposition of organic materials, whose subsidence had been prevented by underlying strata of clay or ledge, we cannot speak with much certainty, owing to the absence of necessary data. The soil of Bar Harbor is very generally composed of diluvium or drift, and undoubtedly rests on a continuous ledge. It would seem probable, however, that such influences would lead to a more widely distributed sickness. And, further, where disease is so perfectly localized, a local cause is suggested.

The well and the drain remain as the two obviously salient points. Of the former, we can only say that its water was hard, clear and sparkling, and uncontaminated by surface drainage. Of the presence of nitrates, we are at present unable to speak, since the returns of the analysis are not yet available.

But the position of the cesspool and drain presents a striking association, not only with the general locality of the Bay View House, but also with the part of the house in which sickness was most prevalent.

The diagram which follows makes this relation intelligible at a glance.

PLAN OF SECOND FLOOR OF BAY VIEW HOUSE.



S, sink, represented by dotted lines, situated in kitchen on lower floor, where dishes &c., were washed, and water found exit at pipe
P, into
D, covered drain (but open at point P) leading to
C, cesspool, also covered, but imperfectly so, with earth.
W, well.
The figures 1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 13 represent the cases which occurred in these rooms respectively. Cases 7, 8, not marked on diagram, were servants, who worked constantly over sink, S, on the floor beneath.
* A case affected for several days only.
O, only room facing into western angle of the house in which a case of illness did not occur.
H, out-houses.
The arrow, at the right, points to cottage, thirty feet distant, in which occurred case 6.

The cesspool already referred to was simply an excavation in the ground about ten feet long by four wide and one foot deep. Over this cavity, boards were placed, and these were covered with the removed earth. It was fifteen feet distant from the hotel, and had been in use for six or seven years. Although the soil was gravelly, it is probable that the whole vicinity of this pool had become saturated and that it no longer had the capacity for absorbing. This in fact became evident, for as early as the second week in July, the foul waters oozed up through the soil-covering and lay

upon the surface, giving out a characteristic drain odor, which was noticeable on that side of the house up to and after the occurrence of fever, three weeks later.

But, if the surface of this pool was odious, its interior must have been vile, and from the interior the most direct communication existed, by means of the covered drain marked D, with the western angle of the house, where the pipe P emptied into its open end.

If, as is believed, the worst germs of disease are propagated under cover, we have here an abundant supply of noxious effluvia, daily and nightly emptied into this angle. In the night, when the air was still, especially in this protected spot, these drain emanations must undoubtedly flow up the sides of the house and enter the windows.

We should expect then to find the inmates of those rooms which open into this retiring angle, the ones affected, and such is found to be the fact, as will be seen by referring to the diagram, of which a few further words of explanation are necessary.

The window of the room occupied by case 4 was directly over the open end of the covered drain. The room itself, owing to its peculiar construction, formed a pocket, in which ventilation was a very remote possibility. The cases occurring in this room and the one next, marked 5, were the most serious.

Two cases, reported ill upon reaching home, had occupied, before leaving, the room designated with the figures 12 and 13. The occupant of the room marked with a star was not seriously ill, and has not been included among the numbered cases. The room marked 0 was occupied by the writer, who early fastened down the window looking into this corner, and used only the end window, which, from its situation, offered opportunities for ventilation not open to windows in the angle. To this fact alone, he attributes his exemption. Cases 7 and 8 worked over the sink, as has been said. Case 1 occurred in the room so marked, the door of which was constantly open into number 3.

It will thus be seen that, in a crowded house, a case of typhoid fever was associated with every room, except one, on the side of the house most exposed to the drain emanations, and this fact seems to prove, as far as human evidence can in the present state of knowledge upon this subject, the direct relation of the fever to filth of this description. At this point we leave the inquiry into causes.

We have, in this instance, repeated at Bar Harbor, an experience common to many growing villages where sanitary precautions have failed to keep pace with increased population. And this experience has left its mark in many directions. The Mt. Desert frequenter, to whom the associations of the island were next to sacred, felt grieved to contemplate the sullied fame of his favorite resort, and was almost tempted to apply the well known couplet,

> "Where every prospect pleases,
> And only man is vile."

The material prosperity of the place suffered a very considerable detriment in the diminished number of visitors, and this injury did not alone affect the hotel proprietors, who failed to receive a large proportion of their prospective summer's earnings, but also extended to each inhabitant who was deprived of the money equivalent for services which he was prepared to render. It is possible that this appeal to the pocket may accomplish what an appeal to the understanding has long failed to do, viz., inaugurate a system of drainage and disposal of kitchen garbage.

In short, the landlord *must* make radical changes or be anathematized, and his hotel avoided. It is idle for him to delude himself with a hastily planted barrel, running over with slime, and point to it as a properly constructed cesspool; or to discourse with all earnestness upon his superior plan of leading filth to a wide expanse of ground directly back of his house and there sprinkling on earth, thus making the chances of health or illness to a hundred guests, depend upon, in the first place, whether he attends to it at all, and in the second, upon his daily judgment as to the necessary amount of earth and the frequency of its application.

However, we wish to speak kindly of the landlords of Bar Harbor, and we are convinced that, with but one notorious exception, they have erred either from indifference or inappreciation of the needs of the occasion.

And while thus plainly dealing with the obvious causes of sickness, and the relation of landlords and their short-comings therewith, it must be agreed that the panic among visitors, and the reports which subsequently gained a wide currency, were greatly disproportionate to the actually existing amount of illness.

The fever did not "rage," to quote a frequently applied term, beyond the eight cases already described as occurring at Bar Harbor and the five who returned home; while a majority of them were of a very mild form.

Nor was the place "pestilential," with the exception of the Harbor House nuisance, beyond the pale of the Bay View House where all the typhoid sickness was located. Of other diseases we should state that a dozen cases of scarlet fever, in its mildest form (with two exceptions), or so-called scarlatina, appeared from time to time, attacking both native inhabitants and visitors. Aside from these two diseases, the amount of illness was less than is usual as compared with the number of people.

We are glad to state that measures have already been taken, which it is hoped will end in the introduction of an abundant supply of the purest water from Eagle Lake. The plan also involves the construction of proper drains.

And the sanitary improvements of the next season must be the measure of each proprietor's good intention, and of the impression made upon him by the events of the last.

No 1 *Park Square, Boston, Oct.* 6, 1873.

Progress in Medicine.

REPORT ON ELECTRO-THERAPEUTICS.

By J. J. Putnam, M.D., Boston.

Electro-physiology.

Ziemssen.—Die Electricität in der Medicin. 4te Aufl.; Physical. und Physiol. Erlangen, 1872. Theil.

Cyon.—Principes d'électro-thérapie. Paris, 1873.

Wreden.—Ueber elec. Reizung d. Gehörorgans. Pflüger's Archiv, Bd. vi.

Weber-Liel.—Ueber das Wesen und der Heilbarkeit d. haufigsten Formen progress. Schwerhorigkeit. Berlin, 1873.

Loewenberg.—Ueber d. Einwork. Elec. Ströme auf d. soyen Binnin-muskeln d. Ohres. Monatschrift f. Ohrenheilkunde; Canstatt's Jahresb., 1873.

Both Cyon and Ziemssen deserve the thanks of the profession for having attempted, in the above works, to rescue electro-therapeutics from the hands of the purely empirical and to place it upon a scientific basis.

The laws of electrotonus, discovered long since by Du Bois-Reymond, Pflüger, and others, are stated by Cyon with remarkable clearness and conciseness.

For the sake of what follows, a brief review of the most important of them may be permitted here.

When a current of electricity is allowed to flow constantly through a (frog's) nerve, its susceptibility to excitations (mechanical, electrical or chemical) suffers certain definite changes. Around the point where the current enters the nerve (positive pole, anode), its irritability becomes diminished, so that to produce a given response (a muscular contraction of a certain strength), a more intense excitation must be used than was previously necessary. Around the point where the current leaves the nerve (negative pole, or kathode), the irritability of the latter becomes, on the contrary, greater than before, so that an irritation previously inefficient now meets with a response.

These states of altered irritability are called, respectively, anelectrotonus and katelectronus. Several theories for their production have been proposed (by Du Bois-Reymond, Hermann and others), but it will be sufficient for our purpose to assume, speaking roughly, that, where the current enters the nerve, the vibration of its molecules becomes less rapid than before (anelectrotonus, or diminished irritability); where the current leaves the nerve, that the rapidity of the molecular vibration is increased (kalectrotonus, or increased irritability).

At the moment that the electrical circuit is closed, the state of increased molecular vibration is induced with great suddenness around the kathode, and thereby the nerve is sufficiently excited to call out a contraction in the muscle which it supplies.

This excitation, accompanying the closing of the circuit of a constant current, takes place, therefore, exclusively at the negative pole (kathode), and *not at all at the positive pole* (anode).

When the circuit is broken, the reverse is true; the diminished molecular vibration around the positive pole (anode) during the passage of the current gives place suddenly to a state of normal, or even increased vibration, and an excitation, *confined to the positive pole*, is the result.

Many investigators have attempted to reproduce these phenomena upon the human subject, and it has, indeed, been demonstrated satisfactorily that with the optic (and perhaps with the auditory) nerve the anelectrotonic and katelectrotonic states may be produced at will.

Pflüger's laws are more difficult of verification; but by taking great precautions, Cyon has obtained very satisfactory results in experimenting upon the ulnar nerve.

It is a matter of common observation in experimenting with the human nerve, that a contraction attends the closing of the circuit (if the current have a certain strength) when only the positive pole is on the nerve, the negative pole, on the contrary, at an indifferent point.

This is, no doubt, because the human nerve is surrounded by good conductors, which give an easy passage to the electrical current, and induce it to leave the nerve almost immediately after entering it.

The muscles constitute for the nerve, in fact, a negative pole (kathode), and the conditions for the induction of katelectrotonus at the moment of circuit-closure are thereby given, although of the metallic poles only the positive be in the neighborhood of the nerve.

It is claimed, on many sides (especially by Brenner and his followers with regard to the auditory nerve), that a state of more or less permanent anelectrotonus may be induced in a nerve by bringing it under the influence of the positive pole for a time, and then gradually reducing the strength of the current to zero, so as to avoid the circuit opening reaction. In this way, it is said that irritative conditions in nerves, and, indeed, in other tissues, may be removed.

The facts may be true, but physiology does not justify this explanation; for, with the frog's nerve at least, the anelectrotonic state disappears immediately, or almost immediately, after the opening of the circuit. A more probable explanation would seem to be that better conditions of nutrition are induced in the irritated nerve by the passage of the current. Furthermore, much doubt has been thrown on the propriety of Brenner's diagnosis of irritation, and, indeed, on the whole theory of the reaction to electricity of the auditory nerve, by Wreden, of St. Petersburg, who has made a long series of experiments to show that the subjective sounds which attend the so-called galvanization of the auditory nerve, are, in fact, due to the contraction of the intrinsic ear-muscles.

That many cases of ringing in the ears and partial deafness are, in fact, dependent upon abnormal conditions of these muscles, and are often curable by galvanizing them (by passing a metallic probe into the tympanic cavity through the Eustachian tube), has been conclusively shown by (among others) Weber, of Berlin. Loewenberg suggests that, by the use of a manometer connected with a water-tight ear-speculum, the supposed action of these muscles might be studied.

Both Cyon and Ziemssen criticize severely the loose and unscientific manner in which marvellous results are set down on all sides as due to the so-called galvanization of the cervical sympathetic. The cervical sympathetic (apart from its connection with the pupil and the salivary

glands) contains the vaso-motor nerves for the ear, face, and some parts of the brain, but not for the rest of the body, and the nutrition of the legs, for instance, can in no wise be dependent upon its influence.

Moreover, as the sympathetic is usually galvanized, not it alone, but also the depressor nerve and the vagus, must be brought under the influence of the current, and, perhaps, through their agency, the circulation of the distant parts of the body may, indeed, be affected.

Cyon points out that the spinal centre for the vaso-motor nerves of the arms lies in the upper dorsal, that for those of the legs in the lower dorsal, region.

Ziemssen has measured carefully the rise in temperature which normal muscles exhibit when made to contract by faradic currents, and found it to amount to several degrees in as many minutes (4°–5° F.). The therapeutical importance of such a rise must, of course, be great. No elevation of temperature, on the other hand, attended the passage of a pretty strong galvanic (constant) current through the skin and muscles for five minutes, except at the point of application of the electrodes. At the same time, there can be little doubt that the nutrition of the various tissues of the body, especially when they are for the moment in a pathological, but tending to return to the normal, state, may be improved by the simple passage of a constant (galvanic) current. Physiological evidence therefor is given by the increased weight which Orimus and Legros found a number of puppies, selected at random from a large litter, to attain under daily galvanization.

Electro-therapeutics.

Neftel.—Galvano-therapeutics. New York, 1871; also, New York Medical Record, December, 1872.

J. Clarence Blake.—Annual Report of the Massachusetts Charitable Eye and Ear Infirmary.

J. Russell Reynolds.—Clinical Uses of Electricity. London. 1873.

Herbert Tibbits.—A Handbook of Medical Electricity. London. 1873.

Holst, Dorpater.—Die elect. Behandlung von Migraine. Med. Zeitschrift, II., 4 Schmidt's Jahrb., No. 6, 1872.

Bouchut.—Paralysie Infantile. Bull. gén. de Thérapie. 1872, Août. Centralblatt, No. 45, 1872.

Cinselli.—Tulle correnti galvanische continue. Gaz. Med. Ital. Lomb., No. 37. Canstatt's Jahresb., 1873.

N. Mayer.—Philadelphia Medical Times, May 15, 1873.

Gerhardt.—Heilung d. Icterus catarrhalis durch Farad. d. Gallenblase. Berl. Klin. Wochenschr., No. 27, 1873.

George M. Beard.—Cases illustrating the Treatment of Skin Diseases by Central Galvanism. N. Y. Medical Record, Aug. 15, 1873.

Neftel and Blake report cases where electricity was of service in the diagnosis and treatment of various aural diseases Neftel found "hyperæsthesia" of the auditory nerve in some cases of chlorosis, and a torpid condition in case of Bright's disease. (Compare above.)

Reynolds and Tibbits, both connected with the Queen's Square Hospital, London, recommend the use of *static* (frictional) *electricity* for its tonic effect upon the nervous centres, the treatment consisting in charging the patient, placed on an insulated stool, with *free electricity*.

Tumors of various kinds are reported as having been relieved, at least temporarily, in this way.

The free electricity obtained from one pole of a large galvanic battery (the other being connected, by way of the gas tubing, with the earth) was found by them to have a similar tonic effect in cases of general nervous debility.

Dr. William R. Fisher *(New York Medical Journal,* May, 1873) speaks of the importance of placing weak or palsied muscles in a relaxed condition while faradizing them. Under these circumstances, they become able to contract, although previously unable. The reporter believes the point to be an important one.

Holst has been more fortunate than most physicians in his treatment of hemicrania by electricity. He distinguishes sharply between two opposite forms of the disease, one due to an irritated condition of the cervical sympathetic, and consequent spasm of the vessels controlled by it (observed and studied upon himself, by Du Bois-Reymond), the other to paralysis of nerve and vessels (first described by Woellendorff).

The excessive irritability of the nerve he treats by bringing it (vide above) under the influence of the anode of a galvanic battery, a long and narrow electrode being pressed inwards and backwards from just in front of the sterno-mastoid muscle, while the other pole is grasped by the patient's hand.

The neuro-paralytic form he treats, on the contrary, by exciting the nerve strongly through the agency of the negative pole (kathode).

Not being able to tell, in most cases, which form of the disease is present, he lets the results of treatment decide the diagnosis.

Dr. Anstie believes, as is well known, that migraine is dependent upon degenerative changes affecting the root of the trigeminus. In this, as in all true neuralgias, he finds that the vaso-motor nerves are generally affected, but secondarily causing, in most cases, first vascular spasm, then vascular paralysis.

The use of *weak, long-continued galvanic currents* is increasing in favor. Bouchut found good results in infantile paralysis from letting the current from four elements run from six to twelve hours at a time through the paralyzed muscles, and considers the resulting improvement an argument for the myopathic origin of the disease. Ciniselli and Mayer recommend the wearing for a long time of batteries, such as have been long in use in the treatment of ulcers, either on opposite sides of the head or on other parts, for neuralgia, paralysis and a long list of nervous disorders.

These batteries differ from Dr. Garratt's disks principally in the further separation from each other of the metallic plates, whereby the tendency of the current to penetrate deeper into the tissues is increased.

T. Clifford Allbutt *(West Riding Hosp. Rec.* for 1872; *Practitioner,* Dec., 1872) gives a number of cases of *dementia* and *melancholia* treated successfully by the use of galvanism directed to the head and the cervical sympathetic. Arndt *(Zeitschr. f. Psych.,* Bd. 28) has met with similar results.

Arndt's observations, however, have by no means been confirmed in all the large hospitals in Europe, and the cases and observers are too few as yet to justify a decided opinion in the matter.

Gerhardt has succeeded, in several cases of *icterus catarrhalis,* in causing the gall-bladder to contract strongly by energetic and well-

directed faradization, whereby the plug of mucus was expelled from the gall-duct. In most of these cases, careful percussion had revealed an area of dulness, which disappeared after treatment.

In the treatment of skin diseases of the most chronic and obstinate character, Dr. Beard has met with marvellous success, both when using local and central galvanism (galvanism of nervous centres). We shall look with interest to see if his observations are confirmed by others.

It has long been known that the health of the skin may be influenced by the state of the central nervous system, and that eczematous, herpetic and other inflammations may be caused by lesions of peripheral nerves, but that so close and so general a connection exists between the state of the central nervous system and that of the skin as the results claimed to follow the galvanization of the latter would indicate is entirely new and strange.

Electro-surgery.

J. Byrne.—Notes on Uterine Surgery. New York Medical Record, December, 1872, and January, 1873.

Neftel.—Die elect. Behandl. d. bosärtigen Geschwülste. Virch. Arch., 1873, I., VII.; Centralblatt, 5 July, 1873.

Carl Michel.—Pharyngitis u. deren Heilung durch Galvanocaustik. Allg. Med. Centr. Zeit., 26th and 27th March, 1873.

Rodolfi.—Della elettriato nella congiuntivite gran. Gazz. Med. Ital. Lomb., Nov. 2, 4, 7, 14, 1872. Canstatt's Jahresb., 1871. Schivardi. 1871.

Trueheart.—Granular Conjunctivitis. New York Medical Record, No. 168, 1872.

Girard.—Amputations-neuroma. Deutsches Arch. f. Chirurgie, B. I., H. 1.

Dr. Byrne appears as an advocate for the use of the electro-cautery in uterine surgery, in a series of very sensible papers, in which he also describes some new and apparently excellent forms of instruments and batteries. (All fluid batteries for this purpose will, probably, be superseded some day by magneto-electric machines, such as Mr. M. G. Farmer makes for exploding torpedoes.)

Michel has used the galvano-cautery to advantage in pharyngitis, touching lightly the thickened prominences of the mucous membrane with the red hot wire, which may be easily introduced, even through the nostril. The operation is not attended with any great pain, and in ten or twelve days every trace of it has disappeared.

In granular conjunctivitis good results are claimed to follow the use of the constant current, one (either) pole armed with a soft sponge being applied directly to the conjunctiva, while the other is placed on the eyebrow or molar process. (Vide Journal, Vol. x. 1872, page 305.)

The duration of each application is ten to thirty minutes.

Three to five applications are generally enough; if not, then one should begin again after an intermission of three to eight days. Meantime, solution of nitrate of silver, gr. ij.–℥i., may be used.

Neftel claims to have destroyed a number of cancerous growths, with better results than usual in the way of recurrence, by means of

electrolysis. He believes that the cancer cells, being of low vitality, are killed by the current, even when they are not in a position to be directly decomposed.

Papers by him on the subject have appeared in several journals, and would repay careful perusal.

Girard gives a carefully reported case in which three amputation-neuromata, which had recurred twice after removal by the knife, were destroyed by electro-puncture, needles connected with a battery of thirty-six small Bunsen elements having been thrust into them. Eight weeks after the operation (the longest time that they had remained away before), there was no sign of recurrence.

THE CAUSES OF DEATH AFTER SEVERE SUPERFICIAL BURNS.—This question is discussed at considerable length by Dr. Mendel, of Paukow, in the *Vierteljahrssch. für ger. u. off. Med.* (xiii. 1). It is a familiar fact that a superficial burn, involving more than one half of the surface of the body, is pretty sure to be fatal, while death may be expected in a majority of cases where only one third the body is burnt. Death may ensue at three different stages of the wound:—the periods of irritation, inflammation and suppuration, and at each different stage the mode of death is different.

I. *Causes of Death in the Period of Irritation.*

A. Paralysis of the Central Nervous System.—This is probably the result of the shock experienced by the nervous system at the time of the reception of the burn. It is of brief duration, and often passes unnoticed.

B. Congestion of the Internal Organs.—Immediately after the accident, a reaction, more or less violent, takes place, characterized by congestion of the encephalon and its membranes, of the lungs and pleura, and also of the alimentary canal and peritoneum, accompanied often by sanguineous exudations upon the lungs and heart.

II. *Causes of Death in the Stage of Inflammation.*—These are the internal inflammations, induced by the cutaneous inflammation, and having their seat, commonly, in that organ situated the nearest to the burn. Meningitis and encephalitis are relatively rare; pneumonia is much more frequent, as are also pleurisy and pericarditis. Gastro-intestinal inflammation is an unusual accompaniment, and, when it occurs, its seat is usually in the duodenum. Another lesion, noticed almost invariably in the duodenum, is *ulceration*, analogous to the round ulcer found in the stomach. This may advance to perforation, and thus induce peritonitis; or the destruction of a vessel may take place, and death may then result from hæmorrhage. To account for the peculiar localization of this lesion, we are forced to resort to various hypotheses; some pathologists connecting it with the situation of Brunner's glands; others ascribing the ulceration to embolism; and others still to some chemical change in the constituents of the bile. In some instances, tetanus has been observed in this stage of a burn.

III. *Causes of Death in the Stage of Suppuration.*—These are exhaustion, pyæmia, septicæmia, renal disturbance accompanied by anasarca, and intestinal hæmorrhages.

Death has been known to take place suddenly, without any appreciable cause, even after complete cicatrization of the wound had taken place.

Bibliographical Notices.

Wharton and Stillé's Medical Jurisprudence. Third Edition. Vol. II. Parts First and Second. Philadelphia: Kay & Brother. 1873.

A work of this character is an exceedingly difficult one to review, consisting, as it does so largely, of cases quoted from various sources, the author being responsible only for their correct abridgement and proper arrangement. In the work before us, material is abundant, and, what adds vastly to its value, easy to get at, both from the excellence of the arrangement and the completeness of the indices. The practitioner could hardly place in his library a book to which he could turn with more confidence that he would find therein a satisfactory statement of opinions and facts upon any point within the extensive range of medical jurisprudence.

The second volume is divided into "books," several of the more important and more strictly medical of which have special editors. The chapters relative to the fœtus and new-born child and to the difference of sex are by Samuel Ashhurst, M.D.; on poisons, by Robert Amory, M.D.; on wounds and signs of death, by Wharton Sinkler, M.D., and the remainder by Francis Wharton, LL.D.

Upon comparing the present edition with that of 1860, it appears that a considerable proportion of the revision has been expended in the direction of abridgement, some cases being reported much less fully than at that time. This, however, has been more than compensated, and the book now appears in volumes of a decidedly medical appearance instead of the one portly and yellow legal work of 1860. It would be easy, of course, by a little search, to point out instances in which more or different cases might have been cited, but it would be mere hypercriticism in most places to do so, since we find no point left without as much authoritative support as its importance demands. We notice, however, a few places in which recent decisions do not agree with the doctrines advanced in the work under consideration. The opinion of Casper and others, which seems to be approved by our authors, that marks of tattooing may disappear, does not agree with the testimony of the medical witnesses in the Tichborne trial, as reported in the papers.

The section on poisons, which is one of the more strictly medical ones, is really complete, and occasionally even tends to superfluity, since it includes, for instance, lactuca and dulcamara, from neither of which has a fatal case of poisoning been reported in man. There are many more or less poisonous, indigenous or cultivated plants which are not specified in the section, but they have probably never been the occasion of legal investigation.

The present editor of this subject has added chapters upon chloral and nitrous oxide, subjects upon which his own investigations enable him to speak with authority, and which, we cannot doubt, will, sooner or later, possess a legal as well as scientific interest, if they have not already done so.

Since the statement was made (1872) that "there has been, as yet, no reliable record of death immediately caused by the use of this (nitrous oxide) anæsthetic gas," a case has been reported, in Eng-

land, of a lady who died while taking the gas for the extraction of a tooth, and in the presence of her family physician. (*Lancet*, Feb. 1873.)

We observe that both in the last and present edition, the stories of arsenic eating in Styria are treated as if a little apocryphal, although in the present edition a case is cited where the arsenic was actually swallowed in the presence of Prof. La Rue. The observation of Dr. Maclagan should have found a place here. He not only saw how well known arsenic eaters take their dose of several grains, but had some of their urine collected from which the drug was subsequently recovered by a chemist. (*Edinburgh Med. Jour.*, Sept. 1867.)

The writer cannot agree with the statements as to the symptoms of chloroform taken by the stomach. He has seen a case terminate fatally in about half-an-hour after the ingestion of two ounces, the first ounce being mixed with wine. The patient when first seen was in a condition of deep narcotism. Under the head of conium, it seems as if the well known case observed by Bennett were too thoroughly observed not to deserve a place.

The number of subjects treated in this volume is by far too great to permit more than an allusion even to the most important. In the section upon the distinction of human from animal blood by the microscope, we observe that the opinion of the author (this passage is the same in the present edition and that of 1860) is that "the blood of an ox or sheep cannot, by the microscope, be, for medico-legal application, distinguished from that of a human being, for, although the globules are somewhat smaller than those of human blood, yet the size of the globule of human blood varies according to whether it is fresh or dried, and the difference between its size in man and animals is too slight to be made a point of evidence where such momentous consequences may depend upon a decision." The editor gives, however, full weight to the other side, and numerous citations of authorities.

The chapters on pregnancy and abortion, survivorship, identity, wounds, signs of death and malpractice are all exceedingly interesting and well fortified with citations.

The meagreness of our criticism may be taken as some slight evidence of the thoroughness of the work. In a literary point of view we notice only a few trivial points for remark. In section 644, it seems doubtful whether Dr. Taylor or Dr. Hassall had ground many cwts. of cocculus indicus "to go into the poor man's drink." It is a relief to find, on referring to the original, that neither of these respected gentlemen were guilty of such exceedingly unprofessional conduct.

We notice, in the last passage in the book, a prevalence of the "will" which in warmer latitudes so frequently replaces the northern "shall." This passage, however, we quote in part, wishing it might be read and pondered by our legislators in preparation for the time when they will again be called upon for a law which shall relieve expert testimony from its present exceeding bad repute. The author advocates the appointment of government experts, and says: "The official physician who acts as referee must be placed under judicial restraints. He should owe his appointment to neither party, but to the State, irrespective of any particular case. His duty it should be to take testimony, if needed on the case, and to hear counsel, so that

he will be in no danger of hazarding one of those rash and ignorant opinions which have so much disgraced this branch of medical practice. After thus judicially hearing the case, it should be his further duty to judiciously certify his opinion to the court by whom the reference is made." * * * "We should (then) soon know whether there is such a thing as moral insanity, and whether it is practicable to distinguish human blood, after the expiration of a week from the period of its drying. Settle a few such points as these, and we relieve criminal justice of a large part of the uncertainties by which it is now beset, and we will have a series of rules by which such cases can be intelligently, consistently, and humanely conducted. Nor will this be all; we will be able to get the judicial utterances of science as to vexed issues of fact, instead of the interested arguments of experts who are virtually employed as counsel by the party calling them, or the wild utterances of philosophic monomaniacs, who are called simply because of their absorption in some unique theory of their special concoction. Such men need not be silenced. Experts as counsel, indeed, will find a proper and important office in presenting the two sides of the issue to the expert who acts as referee. But the expert who fills this last post will be disembarrassed of all personal relations. He will have no client to serve, and no past partisan extravagances to vindicate. He will render his opinion as the advocate neither of another nor of himself; when he speaks he will do so judicially, as the representative of the sense of the special branch of science which the case invokes, governed by the opinion of the great body of scientists in this relation, and advised of the most recent investigations. When this is done, we will have expert evidence rescued from the disrepute into which it has now fallen, and invested with its true rights as the expression of the particular branch of science for which it speaks."

Contributions to Practical Surgery. By GEORGE W. NORRIS, M.D., late Surgeon of the Pennsylvania Hospital, Vice-President of the College of Physicians of Philadelphia, member of the Société Médicale d'Observation of Paris, &c. Philadelphia: Lindsay and Blakiston. 1873.

THE first contribution is on non-union of bones after fractures—its causes and treatment. Dr. Norris first describes the normal mode of osseous union, and then the appearances in cases where perfect osseous union has failed. He divides the latter cases into four classes: first, when the union is by fibro-cartilage; second, cases of entire want of union with extreme mobility of the fragments; third, union by ligamentous bands as in the patella and olecranon; and fourth, when both ends of the bone are contained in a dense capsule, having a sort of synovial lining membrane, a false joint. The causes of non-union are then considered. Among the constitutional causes are enumerated syphilis, cancer, scurvy and advanced age. Among the local causes, frequent motion of the affected limb from whatever cause, from apposition of the fractured ends, interposition of foreign substance between the fragments, tight bandaging, too early use of the limb. Union, however, fails sometimes where the most perfect rest and apposition of the fracture have been maintained. The remarkable

case of absorption of the humerus going on for twelve years, the dissection of which was described by Dr. Porter in this JOURNAL last year, is mentioned. The methods for the cure of ununited fractures are considered very fully; labor and patience in consulting authors and collecting cases have not been spared by Dr. Norris. The forty pages containing the detailed descriptions of these methods and the experiences of surgeons are extremely valuable. A table of 150 cases of operation for ununited fracture, with the chief points of each individual case, fitly closes this essay. Next comes a chapter on deformities after fracture and the plans of removing them. The statistics of fractures and dislocations treated in the Pennsylvania Hospital during the twenty years from 1830 to 1850 are then given. The method of treating each kind of fracture is detailed. A modified Desault apparatus was generally employed, but lately the weight and pulley with extension straps of adhesive plaster have been used. The number of fractures in these twenty years was 2,208. The most numerous were those of the leg (611), next, those of the arm (579), next, of the thigh (266). The ununited fractures were 18; of these 11 were cured, 5 relieved or removed by friends, and 2 died. Of the dislocations, there were 177, 101 of the shoulder and 21 of the hip. Compound fractures are treated of in a clear and practical manner. A statistical account of amputations performed at the hospital in the ten years, from 1850 to 1860, are then given in a table. Of these there were 228, with a mortality of 55. Statistics of the mortality following the ligature of arteries are then given, and the volume closes with an account of the treatment of a case of varicose aneurism at the bend of the elbow. These "contributions" by Dr. Norris are exceedingly interesting and valuable. The patience and labor expended, to say nothing of the time consumed in collecting and arranging the statistics, must have been very great, and the detailed accounts of the various methods of treatment of recent and compound fractures will be found extremely useful to the practical surgeon. It is to be hoped that a like work will be performed for all our large hospitals, so that the immense mass of experience in different modes of treatment may be made known and utilized for the general good. J. H.

BOOKS AND PAMPHLETS RECEIVED.

Treatise on the Diseases of the Eye, including the Anatomy of the Organ. By Dr. Carl Stellwag (von Carion). Translated from the Fourth German Edition by D. B. St. John Roosa, M.D., Charles S. Bull, M.D., and Charles E. Hackley, M.D. New York: William Wood & Co. (From A. Williams & Co.) 1873. Pp. 915.

The Student's Guide to Medical Diagnosis. By Samuel Fenwick, M.D. From the third revised and enlarged English Edition. Philadelphia: Henry C. Lea. 1873. Pp. 328. (A. Williams & Co.)

An Essay on the Principles of Mental Hygiene. By D. A. Gorton, M.D. Philadelphia: J. B. Lippincott & Co. 1873. (From A. Williams & Co.)

Mind and Body. The Theories of their Relation. By Alexander Bain, LL.D. New York: D. Appleton & Co. 1873. Pp. 196.

The Medical Profession in all Countries. Photographic Portraits from Life. No. 9, September, 1873.

Boston Medical and Surgical Journal.

Boston: Thursday, October 30, 1873.

The rapid increase in the population of Boston, caused by the development of its commercial resources, as well as by the systematic process of annexing the adjacent towns, must soon render the existing hospital accommodations of the Metropolis quite inadequate. The waiting-rooms and wards of the different hospitals and dispensaries are, in fact, already overcrowded, and further provision for patients is absolutely necessary. The medical profession, as well as the public, are, therefore, to be congratulated upon the establishment of a new dispensary, under the charge of Dr. James R. Chadwick, to be devoted exclusively to the treatment of diseases peculiar to women.

It is hardly necessary to allude to the important advantages that must accrue to medical students from the opportunity that will here be afforded them of making themselves familiar with this important class of diseases. Young practitioners, likewise, who may not have had the privilege of pursuing their studies where *cliniques* for the observation of these diseases are already established, will here have the chance to remove a serious educational defect.

A correspondent of the *Pall-Mall Gazette* states that Sir William Grey, late Governor of Bengal, devised a system of "training up a body of local practitioners able to apply simple remedies to ordinary diseases, such as cholera, smallpox and epidemic fevers." Meeting often with great epidemics which decimated the adult population in the most populous and richest districts of Bengal, he caused vernacular medical classes to be formed, which the past three years have proved to be a success. In the Medical College of Calcutta, there are now 1400 students, and their numbers increase every year. Of these, 500 receive a high education through the medium of the English language from accomplished European professors. Some 800 obtain a less complete medical education in the Bengali language, from competent native teachers. Other pupils from Northern India receive the same education in the Hindustani tongue. The success of the Calcutta Medical College has led to a demand for vernacular medical schools at other places throughout Bengal.

The various medical journals of Great Britain show a commendable interest regarding the sanitary condition of the troops who are to engage in the Ashantee war, and it seems that the government intends

to neglect no precaution which is likely to lessen the mortality which disease will inevitably bring to those who compose the expedition. Says the *Lancet*, "It is probably for the first time in our military history that a thoroughly workmanlike, comfortable attire has been provided for the soldier—one that will protect his person without encumbering him by its weight or embarrassing him by its tightness about the neck and chest." Large quantities of jams, jellies and medical comforts, as well as medicines, have been sent out. The supply of ice is ensured by the consignment of a ton of freezing salt delivered by a patent ice company of London. Large and small filters have been provided in abundance to counteract as far as may be the foul condition of the water on the Gold Coast. It is to be hoped that the war will be vigorous, short and successful.

It seems a pity that the commander of the expedition, Sir Garnet Wolseley, and his staff should have been unfortunate in their start. These officers embarked from England in a steamer of which the cabins had been recently painted, so that they were subjected to a process of poisoning with lead and the products of the bilge. Their food, also, suffered from the damaging effects of a leakage through the deck.

The *Richmond and Louisville Medical Journal* speaks boldly and justly on the cure for quackery. "There is but one remedy; it is a radical one, powerful, entirely efficient, if it be used. This is the medical press. Unfortunately, most of these presses are afraid to deal with this stupendous evil, and are as cowardly as most medical societies. Those presses that use every means to suppress charlatanism are abused and maligned, and have the most despicable motives attributed to them. . . . . It remains to be seen who are the strongest, the medical quacks and the scamps sustaining them, or the medical press."

Dislocation of the Spleen. By A. R. Kilpatrick, M.D., Navasota, Texas.—The displacement, or dislocation of the spleen occurs so rarely, and is so seldom mentioned by authors, that probably some of the readers of the *Record* may have their doubts of there being such a pathological fact.

Dr. Robley Dunglison, in his "Practice of Medicine," mentions one case he saw *post-mortem*, and reports it as a rarity. He found the spleen broken loose from its attachments, resting with its convex surface on the brim of the pelvis—the lower extremity being turned up in the right lumbar region, suspended by its vascular and peritoneal attachments, and easily movable in every direction.

In April, 1867, I attended a young widow here who was sick with intermittent fever, complicated with deranged uterine function. She was the mother of two children, and was about twenty-five years old.

She had lived in Eastern Texas, and suffered for years with different diseases, mostly, though, malarial fevers. She was poor, and had to cook and do all household work. In course of treating her case, I examined the abdominal contents, and as she was lean, the abdominal walls thin, all the viscera could be felt. I expected, on the first examination, to find a large spleen, but being disappointed, I asked her if she had ever had "fever cake," and she said she had, years ago, and the doctors had treated her for it; but of late she had no trouble with it.

Pressing in the region of the uterus and bladder, I found the spleen there lying very much in the position given above by Prof. D. I am sure I was not mistaken; I found no sign of the organ in its proper place. The spleen could be easily traced out by the fingers, and was not much above the ordinary healthy size and length in the adult. Moving it or pressing on it produced no undue pain. She could give me no satisfactory account as to its dislocation. The woman moved away and died, I heard, of yellow fever, in the summer or fall, as there was an epidemic that year.

In June, 1868, while attending a black woman, who had several children, some of them grown, I found her spleen dislocated and lying exactly in the position of the foregoing case. She was also lean and thin, and the digital examination could easily trace out its size and situation. She also suffered no pain from handling, moving or pressing on the organ; it was evidently not diseased then, but she had no knowledge of when the dislocation occurred. She had been a slave, belonging to a sugar planter in Louisiana.

In 1866, a young lady of this place, who had a large spleen, was attempting to get up in a light wagon, when she was suddenly seized with a very sharp, lancinating pain in the spleen. She had to be helped back into the house, and required medical assistance. Dr. Barnett was called in, and found the spleen entirely below the ribs, leaving a space of more than two inches between the upper edge of the spleen and the ribs. It was very large, and occupied the pelvis, and felt like the gravid uterus. Her clothes were loosened, and her body placed on an inclined bed, elevating the posts so as to make the head much the lowest; then, by pressure and continued manipulation, similar to the taxis in reducing hernia, it was restored to its position and secured by bandages. She was kept in bed and the bandages attended to a few days, when she recovered entirely, and has not been troubled with the spleen since.

I have heard of another case in a married woman in Falls county, who is the mother of three children. She has suffered with enlarged and painful spleen several years. It finally has become dislocated, and now occupies the pelvis and feels like the gravid uterus. Since the dislocation she has aborted several times—in fact, has not brought a child to term since. The spleen must weigh nine pounds, and by its pressure on the uterus and on the large bloodvessels has entirely impaired her health. The displacement came on gradually, and probably was facilitated by parturition.

These cases are reported partly as curiosities of medical experience, and partly to direct the attention of the profession so as to elicit further observation.—*Southern Med. Record.*

Correspondence.

"Cotting's Operation for Infleshed Nail."

Messrs. Editors,—Although many are ready to show that themselves and others have performed this same operation years and years ago, yet we think Dr. Cotting is entitled to have his name connected with it as the one who brought it before the profession fully explained and illustrated for the first time.

In May last, we operated on a "letter carrier," who, in his regular rounds, walks from twelve to fifteen miles daily, back and forth across cobble-stone paved streets, up and down stairs, &c., a case where the success of the operation was unusually well tested. He had been unable to use his foot for four weeks before we saw him, had been poulticing and trying to get the nail out of the flesh, &c.

After operating, we dressed with lint and warm water. His sufferings immediately ceased, and, the third week after, he made one trip daily, and the fourth week found him doing full duty, which he has done since. The toe is sound and tough, although the preceding inflammation caused the foot to remain swollen for nearly three months after the operation.

One word as to the operation itself. We think it has been too complicated and severe, as directed by some surgeons. It is no more severe or lengthy than extracting a tooth, in our hands; being done by one sweeping cut with the common curved narrow bistoury in the pocket case. We see no necessity for transfixion and double flap cutting, directed by one surgeon, &c. We enter the heel of the blade a little back of the root of nail, cutting forward and inward until we strike the edge of the nail, then carry the knife perpendicularly along edge of nail to end, exposing edge of nail for three fourths its length. In case the first cut was not sufficient, we should not hesitate to take off another slice, but that is never necessary, as there is little danger of taking off too much, and nothing to hinder taking off a free slice.

We hope all jealousy, if there should be any, may cease, and that every edition and new work on surgery will mention this method as *the* operation for "ingrowing toe-nail," as it deserves to be. X.

The Cause and Prevention of Yellow Fever.

Messrs. Editors,—Probably no subject within the whole range of medical science has furnished a more fruitful theme for the pen of the medical writer than the dire form of pestilence known as yellow fever. To become familiar with the literature of this malady would require the work of years. It is, indeed, no light task to read even the titles of the numerous essays and the title-pages of the various books which have been published in several languages on this subject, for these treatises are numbered by thousands.

The first glance at this long catalogue of books, and the imposing array of illustrious authors, impresses one that the subject must already be exhausted, and that the attempt to add anything new or valuable would be presumptuous.

And yet, on a closer examination, as we turn from page to page, and from volume to volume, of this vast library, in search of information on certain points, we do not find that unanimity of opinion among these authors which evinces positive knowledge. There is, it is true, very little controversy among them concerning the signs by which this fever manifests itself, or in regard to the local lesions that are to be observed in *post-mortem* examinations of fatal cases; and in regard to the treatment to be pursued, practitioners are no more at variance on this than on many other diseases.

But if prevention is better than cure in other cases, it is emphatically so in this; and the question of the cause and prevention of this disease is paramount to all others concerning its symptoms, pathology and treatment.

Let us, then, inquire, *What is the specific cause of yellow fever?* This is an open question; very open, one may say, for unfortunately the "doctors disagree" on this most vital point. Their answers to the question are contradictory, and, consequently, of little practical value.

One author contends that the fever is caused by volcanic eruptions; another, that it owes its origin to a lack of electricity in the atmosphere; while a third asserts that it is caused by the plant-growth principle being in excess of the actual demand of the growing vegetation; some attribute it to heat, others to moisture, and some to the two combined; many suppose it to arise from the exposure of fresh earth, as in the excavations for cellars, wells, &c., in certain seasons of the year; the decomposition of animal matter, also marsh miasm, are assigned by several writers as the cause of the disease. Dr. E. D. Fenner, of New Orleans, who has probably had a more extensive observation of the rise and progress of this fever, and more experience in its treatment, than any living American, says, in italics, in his Southern Medical Reports, that he believes that "*yellow fever is only one of the forms or types of endemic, malarious fever* witnessed almost annually in this city."—Vol. i. p. 33. Dr. La Roche, the most voluminous of American writers on yellow fever, after reviewing these supposed causes of the disease, states his reasons for rejecting all of them, and advocates the theory that decaying wood, under certain circumstances, has the power to develope the fever. The late Dr. Barton, from extensive observations made during the severest epidemics in New Orleans and vicinity, is very positive that this fever is occasioned by disturbances of the soil, and by filth of various kinds acted upon by heat and moisture; among the kinds of filth enumerated by Dr. Barton as abounding in various parts of the city, and probably causing the outbreak of the fever, are coal tar, molasses leaking from barrels on the wharves, stagnant water in the yards and gutters, offal and refuse from slaughter-houses, stable filth, neglected privies and drains from sinks and water-closets, dead animals decaying along the river banks, and emanations from the vaults and tombs of the city grave yards.

This latter theory of Dr. Barton's is the one most generally adopted by the community at large, both in the medical profession and out of it; and, without doubt, it contains the true theory in a general way, and mixed up with much that is erroneous, but it is too vague and general to be available. And still the boards of health are asking in vain, in which particular substance in the filthy city lies the germ of the disease? What kind of soil is that which, if disturbed, fills the atmosphere with pestilence and death?

Guided by observations during a residence of twelve years in the yellow fever region of the United States, during which time I have visited the West Indies and every town and city where this fever has prevailed, on the Atlantic, on the Gulf coasts and on the Mississippi River, and aided by such histories of the great epidemics as I could conveniently reach, I have arrived at this conclusion in regard to the nature of the cause of the disease in question:—The specific cause of yellow fever is a malaria arising from the decomposition of human excrementitious matter in an atmosphere of a constant high temperature. Moisture and stillness of the air contribute toward rendering an epidemic more intense and fatal; the latter by allowing the poisonous miasm to accumulate, and the former by facilitating its conduction to the lungs.

There is reason to believe that genuine yellow fever, attended by black vomit, may be artificially produced, on a small scale, even in the midst of an Arctic winter, by maintaining the conditions above named, and confining persons within the heated atmosphere for a few weeks.

This new discovery of the cause of yellow fever explains all the unusual phases of the disease, such as its appearing in a South American city for the first time; its ravages in the low marshy region of the delta of the Mississippi and on the high bluffs up the river; it accounts for its origin on shipboard on mid-ocean, and on the high dry rock of Gibraltar; also for the spo-

radic cases which take off but a single victim, as in the case of General Mitchell, at Port Royal, in 1862, as well as for the pestilential wave that sweeps over a whole city, like that at Shreveport at the present time.

It is to be hoped that practical applications of this discovery will soon be made in all places where the yellow fever is now prevailing. The key to the secret of preventing and arresting the pestilence is the knowledge of its cause; armed with this knowledge, health officers will find means to remove the cause. It may not be amiss, however, to suggest that antiseptics, or such articles as retard or prevent the putrefactive and fermentative processes, should not be used. The fermenting and decay are the very things we wish to promote; consequently, lime and chloride of lime are better for throwing into privies. But the best substance known for this purpose is proverbially the cheapest thing—*dirt;* dry dust, and ashes, and dry fine clay. These hasten decomposition and absorb all the noxious gases.

As the cleaning out of privies in a southern city in hot weather might originate an epidemic, and would always increase its fury if already existing, such work must be postponed until colder weather. The contents of such places should be covered several inches deep with dry earth, fine dry clay or ashes. If the drains from the water-closets cannot be purified, these institutions should be entirely closed up until cold weather. From the hour that this is done, and the formation of the peculiar malaria ceases, the force of the epidemic will decline; but, of course, it will not entirely disappear until the accumulating miasm that hangs like a fog over the city is moved off by the winds and diluted by the atmosphere beyond the infectious point.

No harm will result from any amount of excavations in the ground outside the city limits. The soil which it is dangerous to disturb is that on the surface, which is saturated with the filth above mentioned, as in many of the streets and yards of all cities. It has always been noticed that during an epidemic the business of grave and well digging is as healthful as any other.

J. M. HAWKS.

THE ASSUMPTION OF THE FUNCTION OF THE PHYSICIAN BY APOTHECARIES.

MESSRS. EDITORS,—Every physician is aware of the fact that apothecaries are in the habit of prescribing medicine when they should confine themselves to dispensing it. In acting thus, they do an injustice both to the persons who apply to them and to the medical profession; for they are not educated as physicians, and these persons are, for the most part, not impecunious, but are able to pay a physician for his advice. Neither are the ailments for which apothecaries prescribe always trivial, but they are, not rarely, of considerable gravity. This custom has grown to such proportions, that many physicians of Boston have discussed, privately, the feasibility of establishing pharmacies in certain localities in the city and putting them in the hands of competent persons, who should be put upon their honor not to encroach upon the province of the physician. A better way, perhaps, would be to encourage some honest, capable pharmacists to assume the responsibilities of such establishments. The majority of the regular physicians of the city proper would gladly send their prescriptions to these pharmacists, and handsome incomes would, undoubtedly, be derived from this patronage.

My thoughts recurred to this subject lately, upon seeing, in the window of an apothecary on Beacon Street, the show-card of one Humphries, who manufactures so-called "Homœopathic Specifics," and a large case of the "Specifics." This apothecary has received a very large amount of business from the physicians in the central part of the city. Their duty in the premises is plain, but I wish to ask if the selling of homœopathic remedies by apothecaries is not the straw which breaks the camel's back? Is it not time to encourage the establishing of respectable pharmacies?

Boston, October 15, 1873. BEACON HILL.

Medical Miscellany.

ANOTHER death from chloroform in Cincinnati.

THE Spectacle Island Nuisance, which has occasioned much discussion for several years, has at last been referred to the city Board of Health.

THE Howard Association found it necessary to reduce the pay of nurses at Memphis from five to three dollars a day, whereon three hundred and twenty-five struck. They carried their point, of course, but, let us hope, a day of reckoning will come for such contemptible conduct.

AN ODD EFFECT OF HYPODERMIC ATROPIA.—In a note from Dr. Geo. N. Monette, of New Orleans, he says he recently injected into the left arm of a young woman suffering from muscular rheumatism the third of a grain of morphia and the sixteenth part of a grain of sulphate of atropia. In a few moments after, a scarlet rash appeared on, and was limited to, the right side of the body.—*American Practitioner.*

THE process of incineration has received a slight encouragement on the Continent from the formation of a club at Hamburg, each member of which, on entering, makes a provision in his will that his remains are to be burned after death.—*Med. and Surg. Reporter.*

This strikes us a waste of raw material.

To prevent hydrophobia, the wound should be washed as soon as possible with warm water; the whole of its surface should next be blackened with Indian ink, and this washed out till not a trace of color remains. This process is to be repeated twice, and then lunar caustic applied over the whole surface of the wound. The application is to be repeated as often as the wound begins to heal, so as to keep it open for two months, and the system is to be kept slightly under the influence of mercury for the same time.—*London Medical Record.*

COD-LIVER OIL BREAD.—With a view of overcoming the repugnance of some patients to cod-liver oil, M. Bouchut has sought to mask the taste of the oil by incorporating it with flour and making a kind of bread of the mixture. This bread is described (*Répertoire de Pharmacie*, N. S., i. 425) as not in any way disagreeable, and its success during several weeks is stated to have been very encouraging.—*London Medical Record.*

EXTRACTION OF RENAL CALCULUS MORE THAN A CENTURY AGO.—The following is an extract from a letter to the *New York Med. Record:*—

DEAR SIR,—In a rather scarce book called "Mems., Maxims, and Memoirs, by William Wadd, Esq., F.L.S., Surgeon Extraordinary to the King, London, 1827," I find, on page 21, the following note or memorandum:—

"Mr. Paul, a surgeon at Stroud, in Gloucestershire, lately extracted from the kidneys of a woman, by an incision through her back, a rough stone as large as a pigeon's egg, and made an entire cure; it is the first of the kind ever performed in this kingdom.—*Gent's Magazine*, Aug., 1733."

Yours truly, J. H. POOLEY, M.D.

IN a paper on the Action and Sounds of the Heart, read before the British Medical Association, Dr. George Barton maintained that it was a mistake to believe that the ventricle is dilating when the arterial systole takes place. He summed up his views as follows:—1. The distended aorta reacts in immediate connection with the ventricular systole, crossing the sigmoid valves as its impulse is imparted to the wave. The sound produced in closing the sigmoid valves terminates the first sound of the heart. 3. The second sound is produced by contraction of the auricles, as they propel the blood through the auriculo-ventricular foramen, distending the ventricle. It appears to follow the first sound, but represents the commencement of a new beat.—*The Doctor.*

LAST year there were in England 1,455 coroner's inquests for suicide or self-murder—1,057 men and 398 women. According to official tables recently issued, there were, last year, 740 cases of attempted suicides, or one to 31,181 of the estimated population. In London there were 405 cases.—*Dublin Med. Press and Circular.*

PATRONESSES OF QUACKERY.—Since the days of St. John Long, when duchesses entered the witness-box to depose to the marvellous effects of that impostor's liniment, there has always been an irresistible attraction for the ladies of the upper ten thousand in any delicate bit of quackery. Globules are *distingué*. There is none of the grossness or materialistic appearance which belong to an apothecary's bottle, globules and dilutions being to medicine what the fragrance of an herb is to its medical potency. It is interesting to be in delicate health, and, under homœopathic guidance, that ladylike characteristic may be indulged without the discomforts of nasty bottles. Accordingly, the *crême de la crême* are, at least, professing homœopaths, and we observe from the prospectus of a Homœopathic Bazaar that titled patronesses are neither scarce nor undistinguished. H. R. H. the Duchess of Cambridge leads off, supported by five other duchesses. Five marchionesses follow, among whom are especially notable the Marchioness of Westminster and the Marquise de Caux (Madame Adelina Patti). Next we have ten countesses and nine viscountesses, the Countess Granville leading this division. Then we find about fifty "ladies" or "baronesses," including such names as Ebury, Elcho, Lawrence, Rotchschild, Seymour, Havelock, Erskine, &c. The mere honorable and untitled ladies who bring up the rear are grand enough to shed lustre on any ordinary cause, including as they do such names as Mrs. Milner Gibson, Mrs. Knatchbull-Hugessen, and others whose husbands' names are linked with wealth, talent or fashion.—*Dublin Med. Press and Circular.*

NOTES AND QUERIES.

"ECCLESIASTICAL COUNCIL.—The council held a secret session in the evening, and will announce the decision this afternoon." (See daily papers.)

Where were the reporters? Has "newspaper enterprise" declined since the prying into the councils of the Massachusetts Medical Society? PELLET.

QUERY.—Can any one tell a good and speedy way of producing counter-irritation, without disturbing the bladder, and at the same time cleanly? X. P. Q.

MORTALITY IN MASSACHUSETTS.—*Deaths in fifteen Cities and Towns for the week ending October* 18, 1873.

Boston, 139—Charlestown, 13—Worcester, 14—Lowell, 32—Chelsea, 8—Cambridge, 17—Salem, 14—Lawrence, 8—Springfield, 3—Fitchburg, 4—Newburyport, 1—Somerville, 6—Fall River, 38—Haverhill, 6—Holyoke, 6. Total, 309.

Prevalent Diseases.—Consumption, 61—cholera infantum, 29—scarlet fever, 21—typhoid fever, 20.

GEORGE DERBY, M.D.,
Secretary of the State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Oct. 25th, 120. Males, 61; females, 59. Accident, 2—apoplexy, 1—inflammation of the bowels, 1—bronchitis, 2—congestion of the brain, 1—disease of the brain, 4—cancer, 1—cerebro-spinal meningitis, 1—cholera infantum, 9—consumption, 7—convulsions, 3—debility, 3—dyspepsia, 1—diarrhœa, 5—dropsy, 4—dropsy of the brain, 4—drowned, 1—dysentery, 2—diphtheria, 3—exhaustion, 1—erysipelas, 1—scarlet fever, 7—typhoid fever, 10—"frost-bite of leg," 1—gastritis, 1—disease of the heart, 2—hernia, 1—intemperance, 1—disease of the kidneys, 1—disease of the liver, 1—congestion of the lungs, 2—inflammation of the lungs, 6—marasmus, 6—old age, 3—paralysis, 3—premature birth, 2—peritonitis, 2—puerperal disease, 4—scrofula, 1—stricture of the urethra, 1—disease of the spine, 1—teething, 1—tabes mesenterica, 1—whooping cough, 2—unknown, 3.

Under 5 years of age, 55—between 5 and 20 years, 8—between 20 and 40 years, 32—between 40 and 60 years, 14—over 60 years, 11. Born in the United States, 81—Ireland, 27—other places, 12.